

CLAIMS

We claim:

- 1           1.     A method comprising:  
2           creating a scaled-down representation of input to a compute-intensive  
3           application;  
4           calculating a computing requirement based on the scaled-down  
5           representation;  
6           calculating a turn-around time and an actual cost to a customer to run the  
7           compute-intensive application with the input, on one or more processors, based  
8           on the calculated computing requirement; and  
9           sending the turn-around time and the actual cost to the customer's client  
10          software.
- 1           2.     The method of claim 1 wherein the compute-intensive application  
2           is to perform computer graphics rendering.
- 1           3.     The method of claim 1 wherein the compute-intensive application  
2           is to perform logic simulation.
- 1           4.     The method of claim 1 wherein the scaled-down representation of  
2           the application input is generic to a class of applications.
- 1           5.     The method of claim 1 wherein the scaled-down representation of  
2           the application input includes the geometry, lights, number of triangles, textures,  
3           shading method, camera, ray-tracing, anti-aliasing, and motion-blur of an  
4           underlying scene.
- 1           6.     The method of claim 1 further wherein the turn-around time and  
2           actual cost are transmitted over an internet to the customer's client software.
- 1           7.     The method of claim 1 wherein the cost is in terms of input units.

1 8. The method of claim 7 wherein the input units are logic gates.

1 9. The method of claim 7 wherein the input units are image frames.

1 10. A system comprising:  
2 an application-specific module to model input data;  
3 a heuristic modeler module coupled to the output of the application-  
4 specific module, to calculate a computing requirement; and  
5 a run-time calculator module coupled to the output of the heuristic  
6 modeler module, to compute a turn-around time and an actual cost to run the  
7 application on one or more processors.

1 11. The system of claim 10 wherein the modules are to communicate  
2 with each other over an internet.

1 12. The system of claim 10 wherein the application-specific module is  
2 to generate a scaled-down representation of the data to include the geometry,  
3 lights, number of triangles, textures, shading method, camera, ray-tracing, anti-  
4 aliasing, and motion-blur of an underlying scene.

1 13. An article of manufacture comprising:  
2 a machine readable medium containing instructions which, when  
3 executed by a processor, cause a machine to perform operations comprising:  
4 calculating a computing requirement based on a scaled-down  
5 representation of input to a compute-intensive application, the representation  
6 having been created at a customer's machine;  
7 calculating a turn-around time and an actual cost to the customer to run  
8 the compute-intensive application with the input, on one or more processors,  
9 based on the calculated computing requirement; and  
10 providing the turn-around time and the actual cost to the customer's client  
11 software.

1           14.    The article of manufacture of claim 13 wherein the medium  
2 includes further instructions to create the scaled-down representation of the  
3 application input as being generic to a class of applications.

1           15.    The article of manufacture of claim 13 wherein the medium  
2 includes further instructions to create the scaled-down representation of the  
3 application input as having the geometry, lights, number of triangles, textures,  
4 shading method, camera, ray-tracing, anti-aliasing, and motion-blur of an  
5 underlying scene.

1           16.    The article of manufacture of claim 13 wherein the medium  
2 includes further instructions to enable the scaled-down representation of the  
3 input to be received over an internet from the client software.

1           17.    The article of manufacture of claim 13 wherein the medium  
2 includes further instructions to enable the turn-around time and actual cost to be  
3 transmitted over the internet to the customer's client software.

1           18.    The article of manufacture of claim 13 wherein the medium  
2 includes further instructions to calculate the cost in terms of input units.

1           19.    The article of manufacture of claim 18 wherein the medium  
2 includes further instructions to calculate the cost in terms of input units being  
3 logic gates.

1           20.    The article of manufacture of claim 18 wherein the medium  
2 includes further instructions to calculate the cost in terms of input units being  
3 image frames.